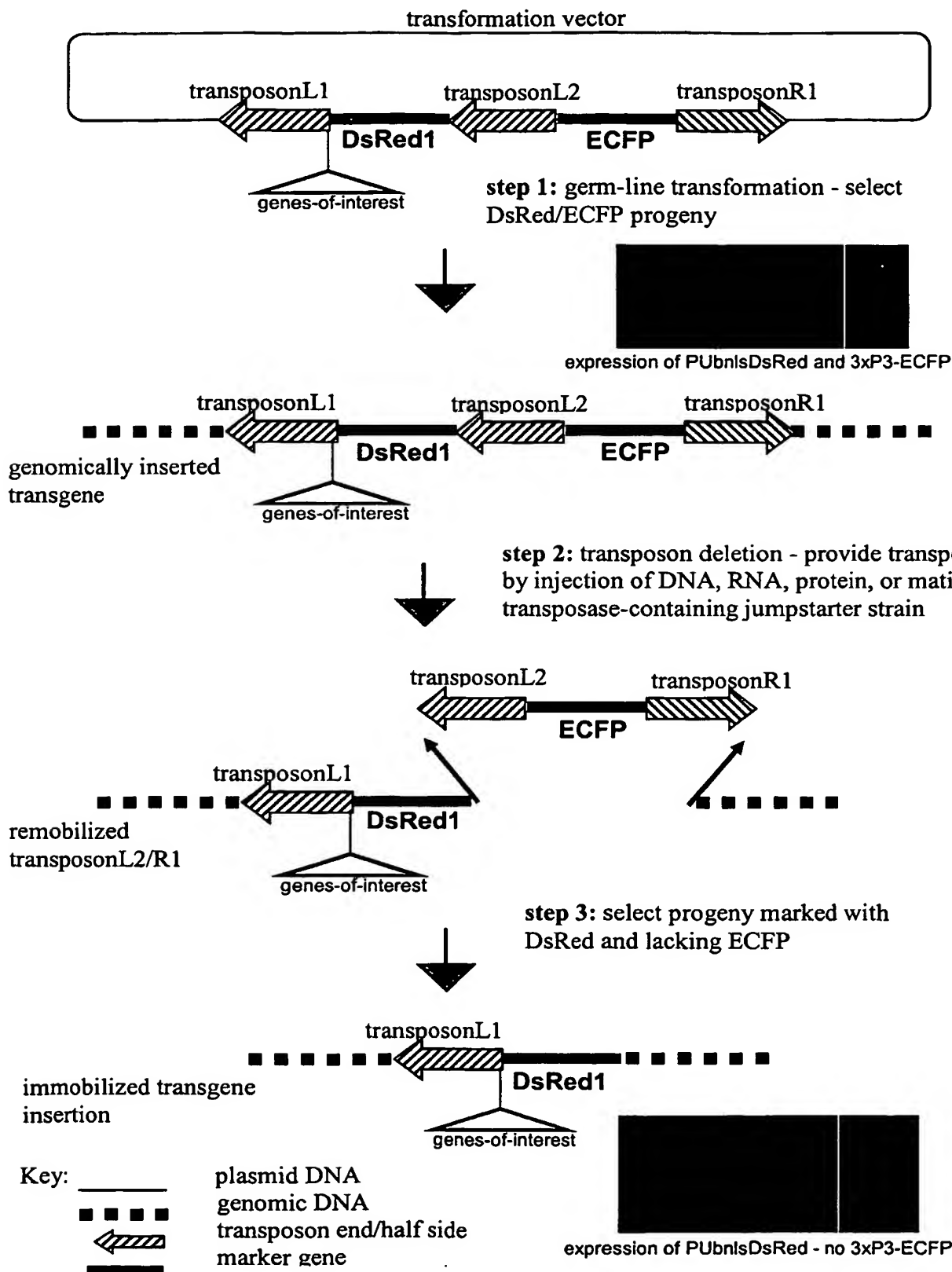
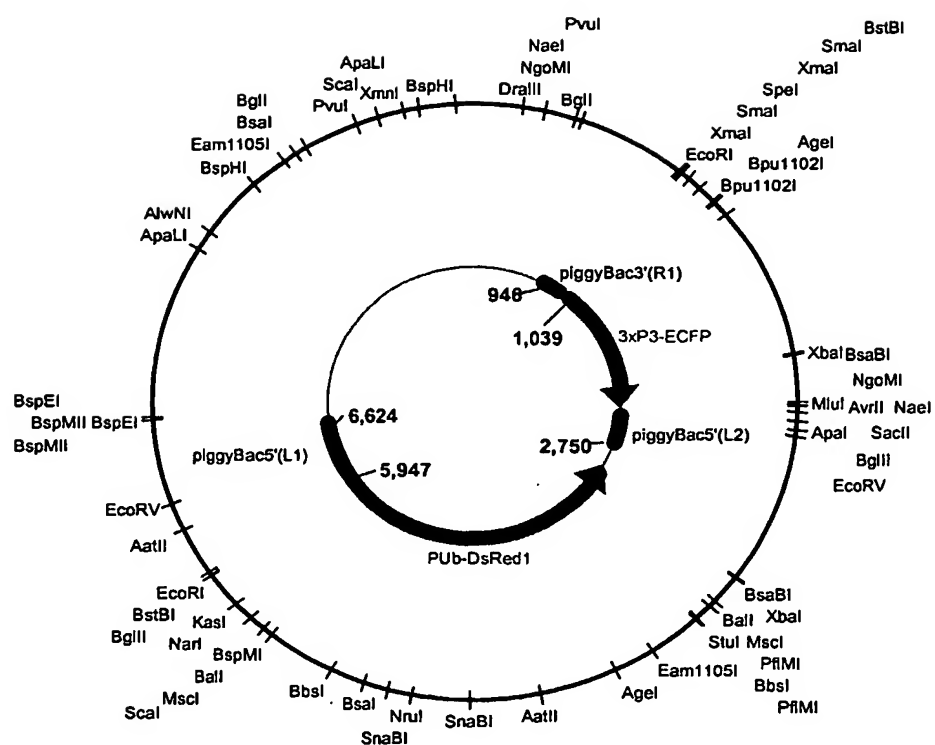


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**Figure 1: Protocol for integration and re-mobilization for stabilized vector creation.**

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**Fig. 2.** Diagram of stabilization vector pBac{L1-PUBDsRed1-L2-3xP3-ECFP-R1}

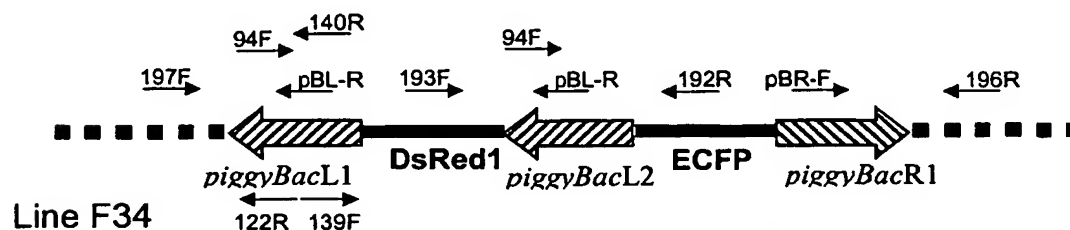
Plasmid size: 9.1 kb

Unique *KasI* cloning site

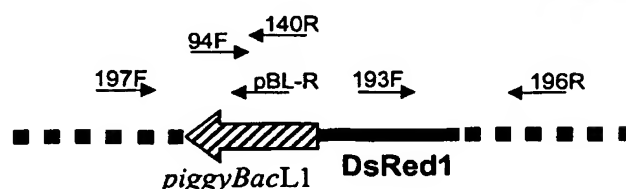
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**Figure 3: PCR analysis and verification of pBac{L1-PUBDsRed1-L2-3xP3-ECFP-R1} vector integration in line F34 and L2-3xP3-ECFP-R1 remobilization in line F34-1M**

PCR Primers	94F pB1-20	5'- CCCTAGAAAGATAGTCTGCG-3'
	122R pB159	5'- ATCAGTGACACTTACCGCATTGACA -3'
	139F pB445	5'- CCAGAGCGATACAGAAGAAGC -3'
	140R pB668	5'- TGTTCAGTGCAGAGACTCGG-3'
	pBL-R	5'- TATGAGTTAAATCTTAAAAAGTCACG -3'
	pBR-F	5'- GTTGAATTTATTATTAGTATGTAAGTG -3'
	192R ECFP	5'- AGAAGAACGGCATCAAGGC -3'
	193F DsRed	5'- ACTCCAAGCTGGACATCACC -3'
	196R DmX-3'	5'- CGCAGACGAAGAACAAACAGTA -3'
	197F DmX-5'	5'- GCTGTTTGCTTTGTTGTTGTCAT -3'



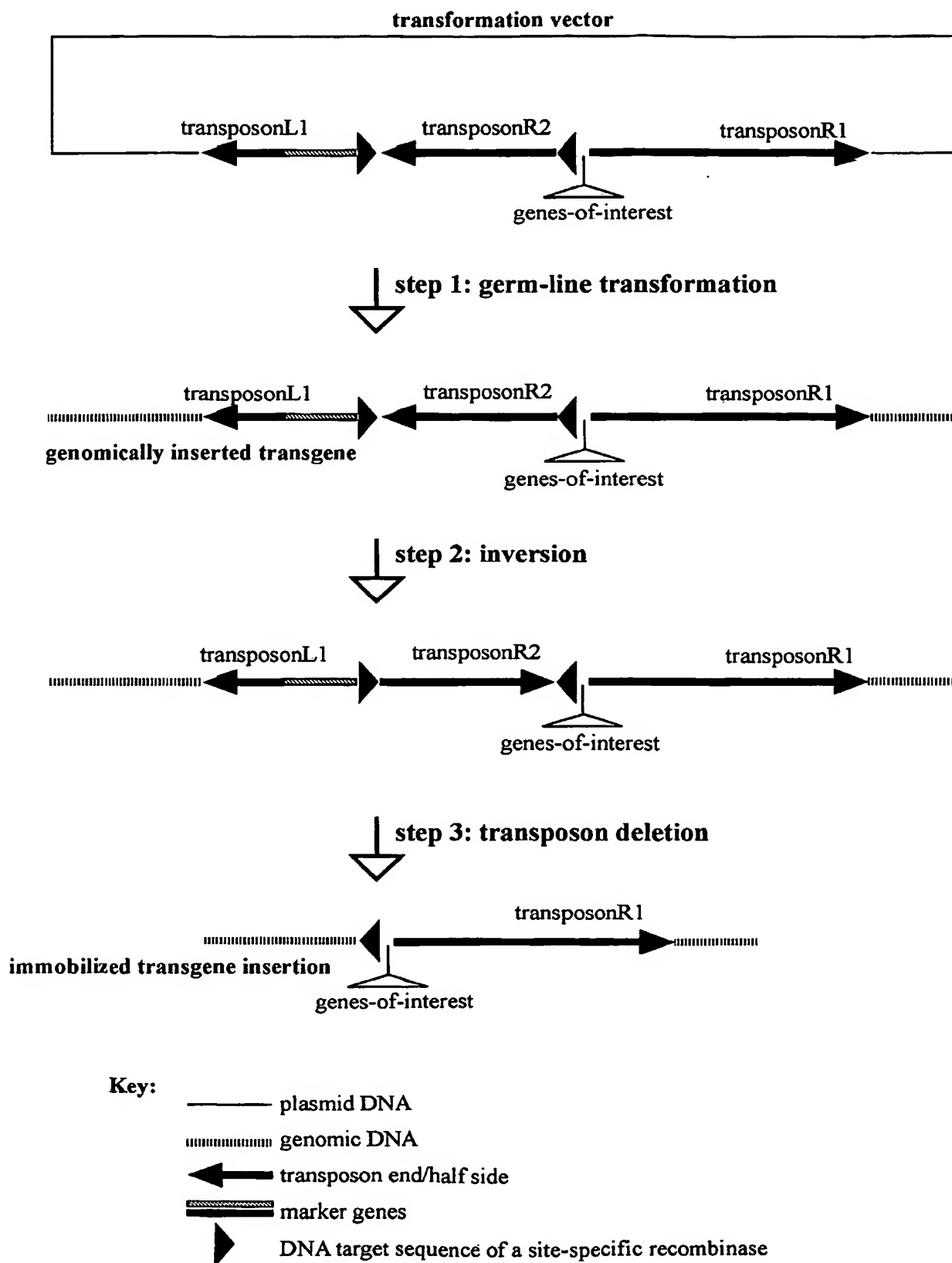
Primer pairs	Predicted (bp)	Obtained (kbp)
1- pBR/196	237	0.2
2- 193/196	2,630	2.6
3- 192/197	4,897	4.9
4- 140/197	713	0.7
5- pBL/197	278 + 4,063	0.3 + 4.0
6- 94/196	2,084 + 5,958	2.0
7- 196/197	6,003	6.0



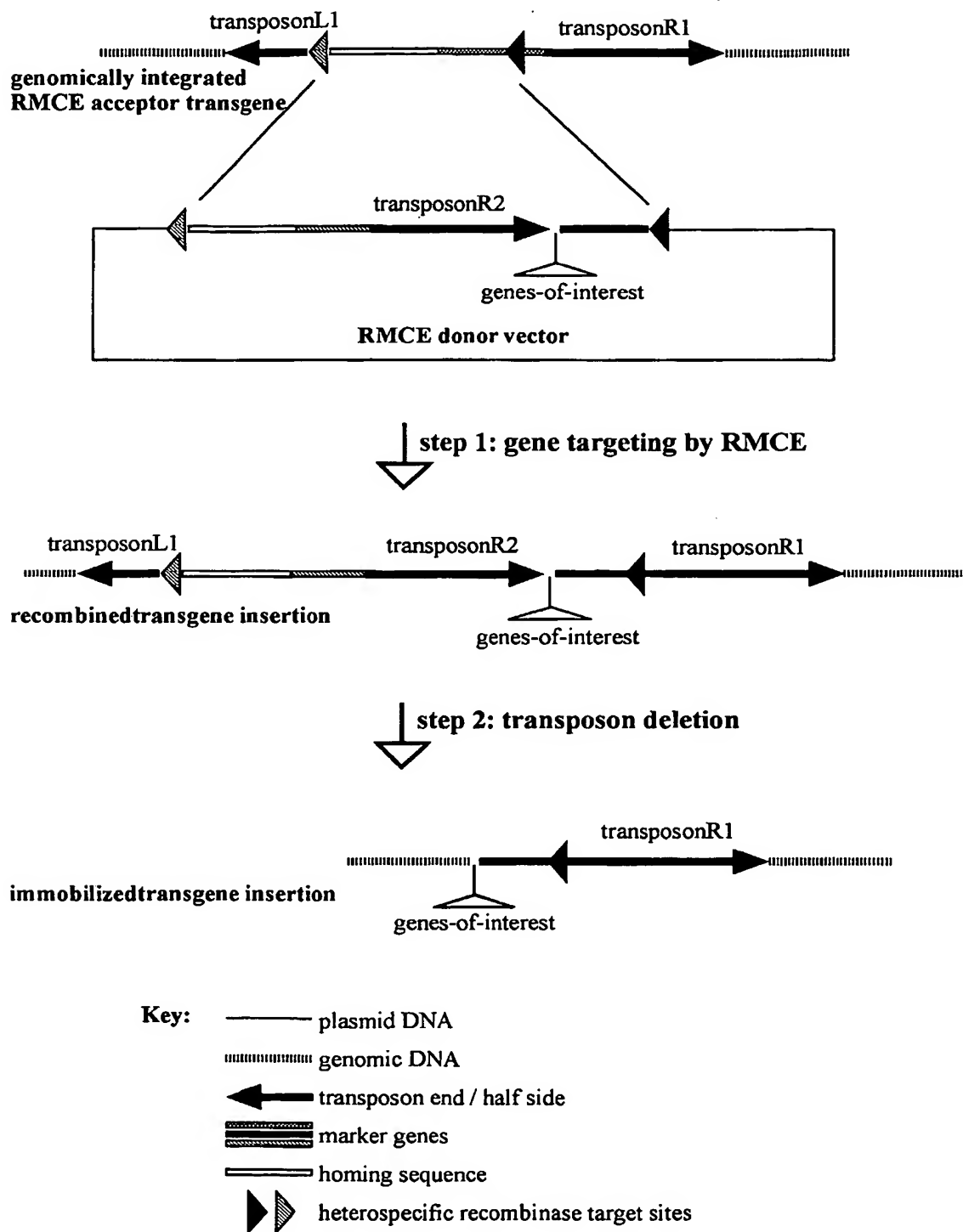
Primer pairs	Predicted (bp)	Obtained (kbp)
1- pBR/196	-	-
2- 193/196	624	0.6
3- 192/197	-	-
4- 140/197	713	0.7
5- pBL/197	278	0.3
6- 94/196	3,952	4.0
7- 196/197	3,997	4.0



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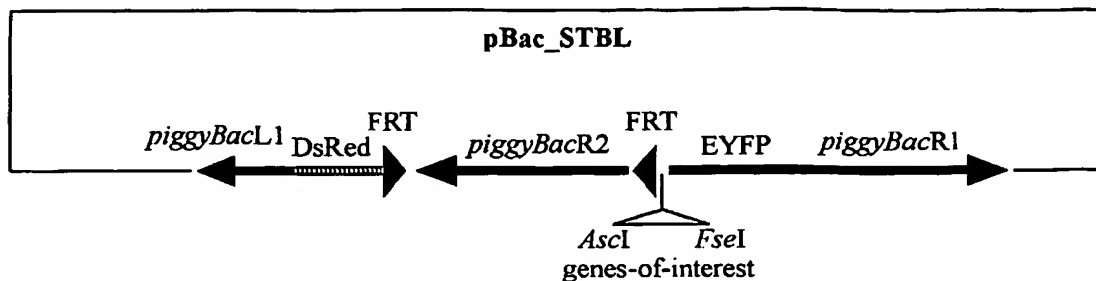
**Figure 4: Conditional excision competent transformation vectors**

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**Figure 5: RMCE with subsequent transposon deletion**

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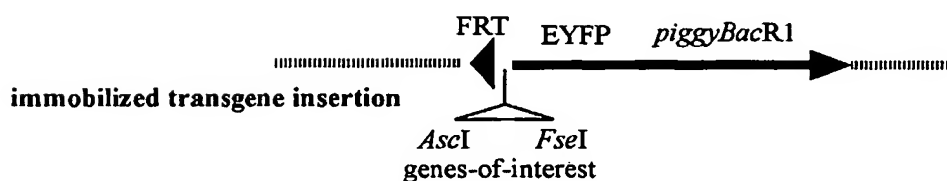
**Fig 6: Embodiment: Stabilized vector creation with pBac\_STBL**  
 (principle shown in Fig. 4)



↓ step 1: **germ-line transformation** - select *DsRed*/*EYFP* progeny

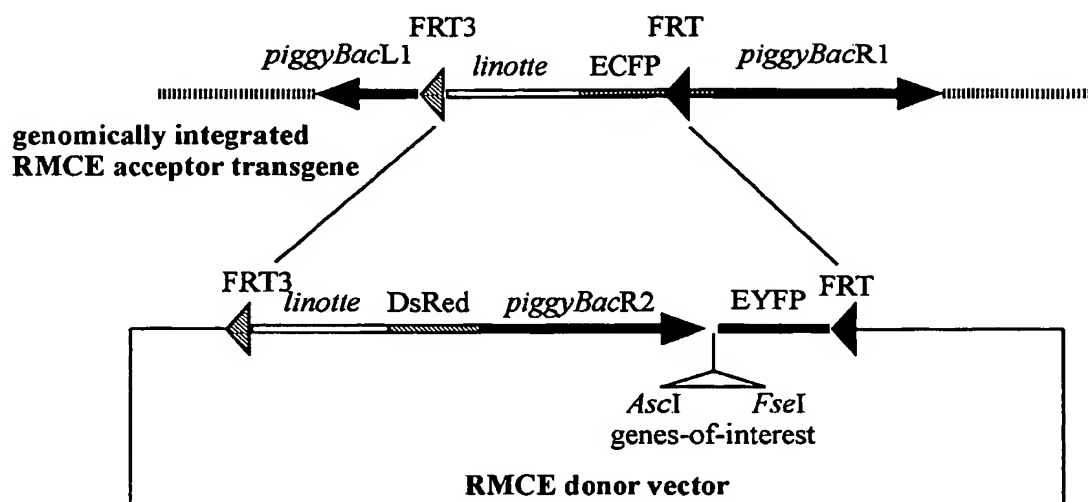
↓ step 2: **inversion** - provide FLP recombinase

↓ step 3: **transposon deletion** - provide *piggyBac* transposase, select progeny marked with *EYFP* and lacking *DsRed*

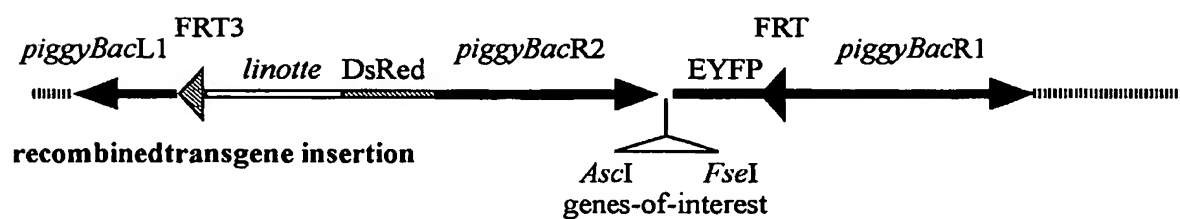


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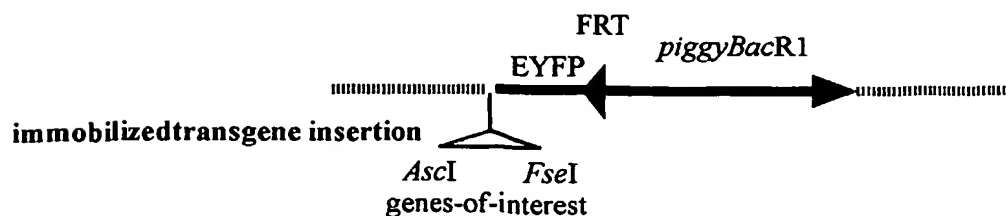
**Fig 7: Embodiment: Stabilized vector creation by RMCE**  
(principle shown in Fig. 5)



↓ **step 1: gene targeting / RMCE** - provide *Flp* recombinase,  
select progeny with EYFP and DsRed



↓ **step 2: transposon deletion** - provide piggyBac transposase,  
select progeny with EYFP and lacking DsRed



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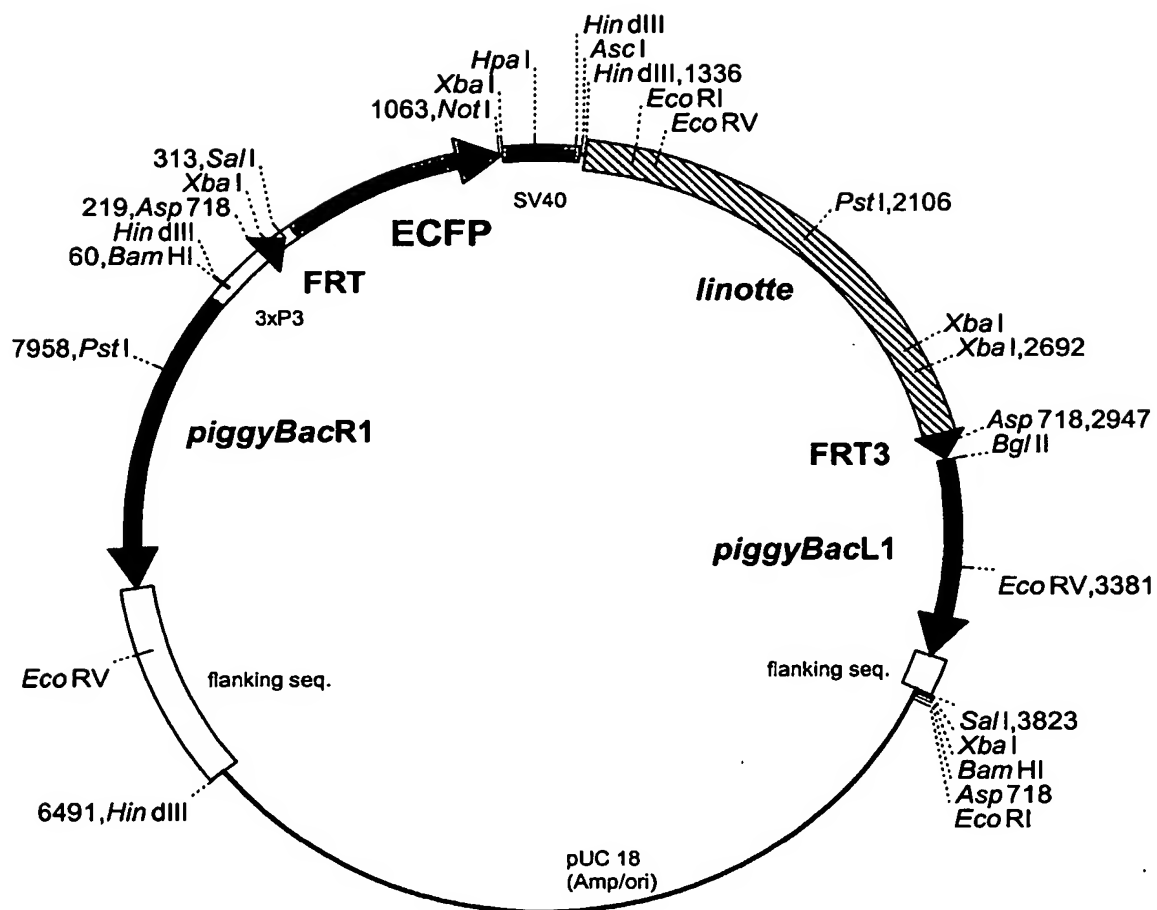


Figure.8: Diagram of RMCE acceptor vector

**pBac{3xP3-FRT-ECFP-linotte-FRT3}**

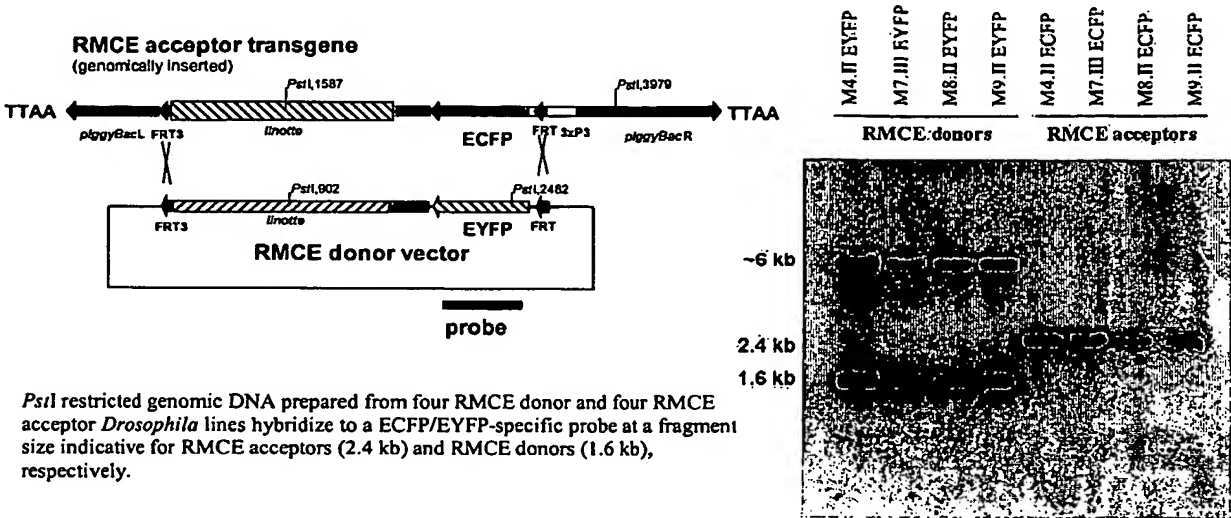
Plasmid size: 8.2 kb



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**Fig. 9: Molecular analysis of RMCE acceptor and RMCE donor transgenic lines and PCR analysis of transgene mobilization**

a) Genomic integration of RMCE acceptor and RMCE donor can be discriminated by Southern Analysis

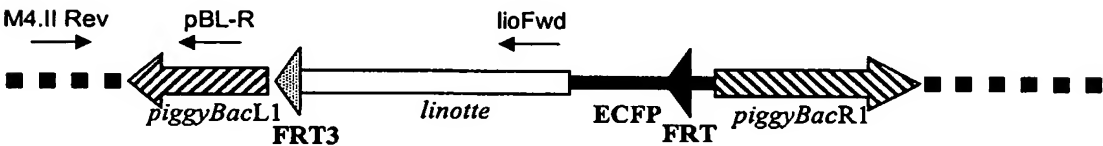


b) Transgene immobilization (as shown in Fig. 7) can be verified by PCR analysis

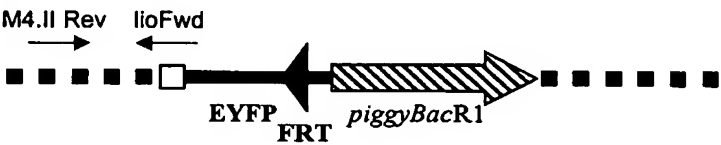
PCR Primers

pBL-R	5' - TATGAGTTAAATCTTAAAAGTCACG - 3'
M4.II Rev	5' - GGGCCACACGATTTATGGC - 3'
lioFwd	5' - GTTTATTTTGGCAACATGAG - 3'

genomically integrated RMCE acceptor (line M4.II ECFP):



immobilized transgene insertion (lines i#7, i#8):



Line	Primer pairs	Predicted (bp)	Obtained (kbp)	L 1 2 L 3 4 5 6
1 - M4.II	pBL-R/M4.II Rev	577	0.6	
2 - M4.II	lioFwd/M4.II Rev	2,836	2.8	
3 - i#7	pBL-R/M4.II Rev	no PCR product	no PCR product	
4 - i#7	lioFwd/M4.II Rev	650	0.6	
5 - i#8	pBL-R/M4.II Rev	no PCR product	no PCR product	
6 - i#8	lioFwd/M4.II Rev	650	0.6	

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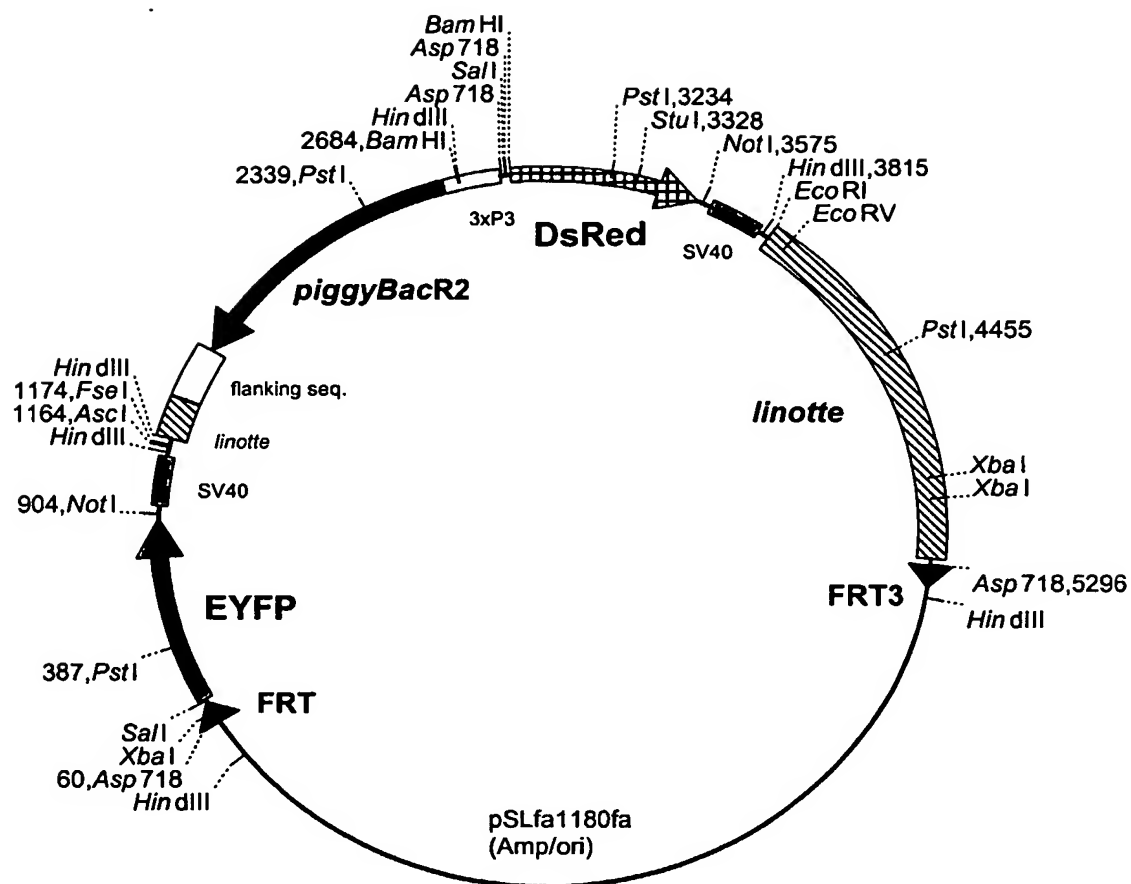


Figure 10: Diagram of final RMCE donor vector for transgene stabilization

**pSL-FRT-EYFP-pBacR2-3xP3-DsRed-linotte-FRT3**

Plasmid size: 8.6 kb

Unique cloning sites: *AscI*, *FseI*

Fig. 11 Approximate DNA sequence for the vector shown in Fig. 10

CTAAATTGTAAGCGTTAATATTTTGTAAATTCGCGTTAAATTTTGT  
AAATCAGCTCATTTTAAACCAATAGGCCGAAATCGGCAAAATCCCTTAT  
AAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAA  
CAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAA  
CCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAGT  
TTTTTGGGGTCGAGGTGCCGTAAAGCACTAAATCGGAACCCTAAAGGGAG  
CCCCGATTTAGAGCTTGACGGGGAAAGCCGGCGAACGTGGCGAGAAAGG  
AAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCAAGTGTAGCG  
GTCACGCTGCGCGTAACCACCACACCCGCCGCGCTTAATGCGCCGCTACA  
GGGCGCGTCCCATTCGCCATTCAAGGTGCGCAACTGTTGGGAAGGGCGAT  
CGGTGCGGGCCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGTGCT  
GCAAGGCGATTAAAGTTGGGTAACGCCAGGGTTTTCCAGTCACGACGTTG  
TAAAACGACGGCCAGTGAGCGCGCCTCGTTCATTACGTTTTTGAACCCG  
TGGAGGACGGGCAGACTCGCGGTGCAATGTGTTTTACAGCGTGATGGAG  
CAGATGAAGATGCTCGACACGCTGCAGAACACGCAGCTAGATTAACCCTA  
GAAAGATAATCATATTGTGACGTACGTAAAGATAATCATGCGTAAATTT  
GACGCATGTGTTTTATCGGTCTGTATATCGAGGTTTTATTTATTAATTTGA  
ATAGATATTAAGTTTTATTATATTTACACTTACATACTAATAATAAATTC  
AACAAACAATTTATTTATGTTTTATTTATTTATTAACAAAAAACAACAACT  
CAAAATTTCTTCTATAAAGTAACAAACCTTTTATCGAATTCCTGCAGCCC  
GGGGGATCCACTAGTTCTAGTGTTCACCAATGGTTAATTCGAGCTCGCC  
CGGGGATCTAATTCAATTAGAGACTAATTCAATTAGAGCTAATTCAATTA  
GGATCCAAGCTTATCGATTTGCAACCCCTCGACCGCCGGAGTATAAATAGA  
GGCGCTTCGTCTACGGAGCGACAATTCAATTCAAACAAGCAAAGTGAACA  
CGTCGCTAAGCGAAAGCTAAGCAAATAAACAAGCGCAGCTGAACAAGCTA  
AACAAATCGGGGTACCGCTAGAGTCGACGGTACGATCCACCGGTGCGCCACC  
ATGGTGAGCAAGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCTGGT  
CGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAAGCGTGTCCGGCGAGG  
GCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCTCTGCACC  
ACCGGCAAGCTGCCCCGTGCCCTGGCCACCCCTCGTGACCACCCCTGACCTG  
GGCGTGCAAGTCTCAGCCGCTACCCCGACCATGAAGCAGCAGCACT  
TCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTC  
TTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTGAGGG  
CGACACCCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGG  
ACGGCAACATCCTGGGGCACAAGCTGGAGTACAATACTACATCAGCCACAAC  
GTCTATATCACCGCCGACAAGCAGAAGAACGGCATCAAGGCCAATTTCAA  
GATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACC  
AGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCCGACAACCAC  
TACCTGAGCACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGA  
TCACATGGTCTCTGAGTTCGTGACCGCCGCGGGATCACTCTCGGCA  
TGGACGAGCTGTACAAGTAAAGCGGCCGCGACTCTAGATCATAATCAGCC  
ATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCACACCTC  
CCCCTGAACCTGAAACATAAAATGAATGCAATTGTTGTTGTTAACTTGTT  
TATTGCAGCTTATAATGGTTACAAATAAAGCAATAGCATCACAATTTCA  
CAAATAAAGCATTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTC  
ATCAATGTATCTTAAAGCTTATCGATACGCGTACGGCGCGCTAGGCCGG  
CCGATACTAGAGCGGCCGCCACCGCGGTGGAGCTCCAGCTTTTGTTCCTT  
TTAGTGAGGGTTAATTAGATCTTAATACGACTCACTATAGGGCGAATTGG  
GTACCGGGCCCCCCTCGAGGTGACGGTATCGATAAGCTTGATATCTAT  
AACAAGAAAAATATATATAAAGTTATCACGTAAGTAGAACATGAAAT  
AACAATATAATTATCGTATGAGTTAAATCTTAAAGTCACGTAAAAGATA  
ATCATGCGTCATTTTGACTCACGCGGTCGTTATAGTTCAAATCAGTGAC  
ACTTACCGCATTGACAAGCACGCCTCACGGGAGCTCCAAGCGGCGACTGA  
GATGTCCTAAATGCACAGCGACGGATTCGCGCTATTTAGAAAGAGAGAGC  
AATATTTCAAGAATGCATGCGTCAATTTTACGCAGACTATCTTTCTAGGG  
TTAATCTAGCTGCATCAGGATCATATCGTCCGGTCTTTTTTCCGGCTCAG

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Fig. 11a

TCATCGCCCCAAGCTGGCGCTATCTGGGCATCGGGGAGGAAGAAGCCCGTG  
CCTTTTCCCGCGAGGTTGAAGCGGCATGGAAAGAGTTTGCCGAGGATGAC  
TGCTGCTGCATTGACGTTGAGCGAAAACGCACGTTTACCATGATGATTCG  
GGAAGGTGTGGGATACATTGATGAGTTTGGACAAACCACAACCTAGAAATGC  
AGTGAAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTT  
GTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCA  
TTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGT  
AAAACCTCTACAAATGTGGTATGGCTGATTATGATCTAGAGTCGCGGCCG  
CTACAGGAACAGGTGGTGGCGGCCCTCGGTGCGCTCGTACTGCTCCACGA  
TGGTGTAGTCCTCGTTGTGGGAGGTGATGTCCAGCTTGGAGTCCACGTAG  
TAGTAGCCGGGCAGCTGCACGGGCTTCTTGGCCATGTAGATGGACTTGAA  
CTCCACCAGGTAGTGGCCGCCGCTCCTTCAGCTTCAGGGCCTTGTGGATCT  
CGCCCTTCAGCACGCCGTCGCGGGGGTACAGGCGCTCGGTGGAGGCCTCC  
CAGCCCATGGTCTTCTTCTGCATTACGGGGCCGTCGGAGGGGAAGTTCAC  
GCCGATGAACCTTCACCTTGTAGATGAAGCAGCCGCTCTGCAGGGAGGAGT  
CTTGGGTACCGTCCACGCGCCGCTCCTCGAAGTTCATCACGCGCTCC  
CACTTGAAGCCCTCGGGGAAGGACAGCTTCTTGTAGTCGGGGATGTCCGC  
GGGGTGCTTCACGTACACCTTGGAGCCGTAAGTGGGAGTGGGGGACAGGA  
TGTCCCAGGCGAAGGGCAGGGGGCCGCCCTTGGTCACCTTCAGCTTCACG  
GTGTTGTGGCCCTCGTAGGGGCGGCCCTCGCCCTCGCCCTCGATCTCGAA  
CTCGTGCCGTTACGGTGGCCCTCCATGCGCACCTTGAAGCGCATGAACT  
CCTTGATGACGTTCTTGGAGGAGCGCACCATGGTGGCGACCGGTGGATCC  
CCGATCTGCATTTTGGATTATTCTGCGGGTCAAAATAGAGATGTGGAAAA  
TTAGTACGAAATCAAAATGAGTTTTCGTTGAAATTACAAAATATTGAACT  
AACTTCCTGGCTGGGGAATAAAAATGGGAACTTATTTATCGACGCCAAC  
TTTGTGTGAGAAACCCCTATTAAACCCTCTACGAATATTGGAACAAAGGAAA  
GCGAAGAAACAGGAACAAAGGTAGTTGAGAAACCTGTTCCGTTGCTCGTC  
ATCGTTTTCATAATGCGAGTGTGTGCATGTATATATACACAGCTGAAACG  
CATGCATACACATTATTTTGTGTGTATATGGTGACGTCAAACTACTAAG  
CAATAAGAAATTTTCCAGACGTGGCTTTTCGTTTCAAGCAACCTACTCTAT  
TTCAGCTAAAAATAAGTGGATTTTCGTTGGTAAAATACTTCAATTAAGCAA  
AGAACTAACTAACTAAATACATGCACACAAATGCTCGAGTGCCTTCGTGA  
TTTCTCGAATTTTCAAAATGCGTCACTGCGAATTTCACAATTTGCCAATAA  
ATCTTGGCGAAAATCAACACGCAAGTTTTATTTATAGATTTGTTTTCGTT  
TTGATGCCAATTGATTGGGAAAAACAAGATGCGTGGCTGCCAATTTCTTAT  
TTTGTAATTACGTAGAGCGTTGAATAAAAAAATGGCCGAACAAAGAC  
CTTGAAATGCAGTTTTTCTTGAAATTACTCAACGCTTGTGTGCTCTTATT  
ACTAATTGGTAACAGCGAGTTAAAAACTTACGTTTCTTGTGACTTTTCGAG  
AATGTTCTTTAATTGTACTTTAATCACCACCAATTAAGTATAAATTTTT  
CGCTGATTGCGCTTTACTTTCTGCTGTACTTGCTGCTGCAATGTCAAT  
TGGTTTTGAAGGCGACCGTTTCGCGAACGCTGTTTATATACCTTCGGTGTC  
CGTTGAAAATCACTAAAAAATACCGTAGTGTTCGTAACTTTAGTACAG  
AGAAAAAAATTTGTGCCGAAATGTTTTGTATACGTACGAATACCTTGTAT  
TAAAATTTTTATGATTTCTGTGTATCACTTTTTTTTTGTGTTTTTTCGTT  
TAACTCACCACAGTACAAAAACAATAAAATATTTTTAAGACAATTTCAA  
TTGAGACCTTTCTCGTACTGACTTGACCGGCTGAATGAGGATTTCTACCT  
AGACGACCTACTTCTTACCATGACATTGAATGCAATGCCACCTTTGATCT  
AACTTACAAAAGTCCAAGGCTTGTAGGATTGGTGTATTATTTAGTTTGC  
TTTTGAAATAGCACTGTCTTCTTACCGCTATAATTTTGAACTCGCAG  
CTTGACTGGAAATTTAAAGTAATCTGTGTAGGTAAAGGTGTTTTAA  
AAGTGTGATGTGTTGAGCGTTGCGGCAACGACTGCTATTTATGTATATAT  
TTTCAAACTTATTGTTTTTGAAGTGTTTTAAATGGAGCTATCTGGCAAC  
GCTGCGCATAATCTTACACAAGCTTTTCTTAATCCATTTTAAAGTGAAT  
TTGTTTTTACTCTTTCGGCAATAATGTTAAATCGCTTTAAGTGGGCTT  
ACATCTGGATAAGTAATGAAAACCTGCATATTATAATATTAACATATA  
ATCCACTGTGCTTTCCCGTGTGTGGCCATATACCTAAAAAGTTTATTT

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Fig. 11b

TCGCAGAGCCCCGCACGGTCACACTACGGTTCGGCGATTTTCGATTTTGG  
ACAGTACTGATTGCAAGCGCACCGAAAGCAAAATGGAGCTGGAGATTTTG  
AACGCGAAGAACAGCAAGCCGTACGGCAAGGTGAAGGTGCCCTCCGGCGC  
CACGCCCATCGGCGATCTGCGCGCCCTAATTACAAAGACCCCTGAAGCAGA  
CCCCACACGCGAATCGCCAGTCGCTTCGTCTGGAAGTGAAGGGCAAAAGC  
CTGAAAGATACGGACACATTGGAATCTCTGTCGCTGCGTTCGGGCGACAA  
GATCGGGTACCGTTCGACTGCAGAATTCGAAGCTTGAGCTCGAGATCTGAC  
AATGTTTCAGTGCAGAGACTCGGCTACGCCTCGTGGACTTTGAAGTTGACC  
AACAAATGTTTATTCTTACCTCTAATAGTCCTCTGTGGCAAGGTCAAGATT  
CTGTTAGAAGCCAATGAAGAACCTGGTTGTTCAATAACATTTTGTTCGTC  
TAATATTTTCACTACCGCTTGACGTTGGCTGCACCTCATGTACCTCATCTA  
TAAACGCTTCTTCTGTATCGCTCTGGACGTCATCTTCACTTACGTGATCT  
GATATTTCACTGTGAGAATCCTCACCAACAAGCTCGTCATCGCTTTGCAG  
AAGAGCAGAGAGGATATGCTCATCGTCTAAAGAACTACCCATTTTATTAT  
ATATTAGTCACGATATCTATAACAAGAAAATATATATATAATAAGTTATC  
ACGTAAGTAGAACATGAAATAACAATATAATTATCGTATGAGTTAAATCT  
TAAAAGTCACGTAAAAGATAATCATGCGTCATTTTGAAGTACGCGGTCGT  
TATAGTTCAAAATCAGTGACACTTACCGCATTGACAAGCAGCCCTCACGG  
GAGCTCCAAGCGGCGACTGAGATGTCTAAATGCACAGCGACGGATTTCGC  
GCTATTTAGAAAGAGAGAGCAATATTTCAAGAAATGCATGCGTCAATTTTA  
CGCAGACTATCTTTCTAGGGTTAAAAAAGATTTGCGCTTTACTCGACCTA  
AACTTTAAACACGTTAACCATGCACGCCTTTAACGGTGAAGTGTTCGTTT  
AGGCCACCTGGGATACAGTTTCGTGCGGCTTTTCCGGACACAGTTCCGG  
ATGGTCAGCCCCGAAGCGCATCAGCAACCCGAACAATACCGGCGACAGCCG  
GAAGTGCCTGCGGCTGTCAGATTAAATGACAGCGGTGCGGCGCTGGGAT  
ATTACGTGAGCGAGGACGGGTATCCTGGCTGGATGCCGCAGAAATGGACA  
TGGATACCCCGTGAGTTACCCGGCGGGCGCGCTTGGCGTAATCATGGTCA  
TAGCTGTTTCTGTGTGAAATTGTTATCCGCTCACAATTCCACACAACAT  
ACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCT  
AACTCACATTAATTGCGTTGCGCTCACTGCCCCGCTTTCCAGTCGGGAAAC  
CTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGG  
TTTGGCTATTGGGCGCTCTTCCGCTTCCCTCGCTCACTGACTCGCTGCGCT  
CGGTCGTTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATA  
CGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAA  
AGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTT  
TCCATAGGCTCCGCCCCCTGACGAGCATCAGAAAAATCGACGCTCAAGT  
CAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCC  
TGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCCTGCCGCTTACCGGAT  
ACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCA  
CGCTGTAGGTATCTCAGTTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTG  
TGTGCACGAACCCCGTTACGCCCCGACCGCTGCGCCTTATCCGGTAACT  
ATCGTCTTGAGTCCAAACCCGTAAGACACGACTTATCGCCACTGGCAGCA  
GCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGA  
GTTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGGACAGTATTTG  
GTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGC  
TCTTGATCCGGCAAAACAAACCCGCTGGTAGCGGTGGTTTTTTTGTGTTG  
CAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  
TCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGG  
ATTTTGGTCATGAGATTATCAAAAAGGATCTTACCTAGATCCTTTTAA  
TTAAAAATGAAGTTTAAATCAATCTAAAGTATATATGAGTAAACTTGGT  
CTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGT  
CTATTTTCGTTTCATCCATAGTTGCTGACTCCCCGTCGTGTAGATAACTAC  
GATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAG  
ACCCACGCTCACCGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGA  
AGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATCCAGTC  
TATTAATGTTGCGGGGAAGCTAGAGTAAGTAGTTGCGCAGTTAATAGTT  
TGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCG  
TTTGGTATGGCTTCATTACGCTCCGGTTCCTAACGATCAAGGCGAGTTAC

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Fig. 11c

ATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCCTCCGA  
TCGTTGTCAGAAGTAAGTTGGCCGCAGTGTTATCACTCATGGTTATGGCA  
GCACTGCATAATTCTCTTACTGTCATGCCATCCGTAAGATGCTTTTCTGT  
GACTGGTGAGTACTCAACCAAGTCATTCTGAGAATAGTGTATGCGGCGAC  
CGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATAGC  
AGAACTTTAAAAGTGCTCATCATTGGAAAACGTTCTTCGGGGCGAAAAC  
CTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTG  
CACCCAAC TGATCTTCAGCATCTTTTACTTTCACCAGCGTTTCTGGGTGA  
GCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCGACACG  
GAAATGTTGAATACTCATACTCTTCCTTTTCAATATTATTGAAGCATTT  
ATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAA  
AATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCAC

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Fig. 12 Approximate DNA sequence for the vector shown in Fig. 8  
pBac{3xP3-FRT-ECFP-linotte-FRT3}

1  
GAGCTCGCCCGGGGATCTAATTCAATTAGAGACTAATTCAATTAGAGCTAATTCAATTAGGATCCAAGCTTAT  
CGATTTTGAACCCCTCGACCGCCGGAGTATAAATAGAGGCGCTTTCGTCTACGGAGCGACAATTCAATTCAAACA  
AGCAAAGTGAACACGTGCTAAGCGAAAGCTAAGCAAATAAACAAGCGCAGCTGAACAAGCTAAACAATCGGG  
GTACCCGGGATCTTGAAGTTCTTATTCCGAAGTTCTTATTCTCTAGAAAGTATAGGAAGTTTCAGAGCGCTTT  
TGAAGCTAGGCGGCCCTAGAGTCGACGGTACGATCCACCGGTCGCCACCATGGTGAGCAAGGGCGAGGAGCTG  
TTCACCGGGGTGGTGCCCATCCTGGTTCGAGCTGGACGGCAGCTAAACGGCCACAAGTTCAGCGTGTCCGGCG  
AGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCGTGCC  
CTGGCCACCCCTCGTGACCACCTGACCTGGGGCGTGCACTGCTTCAGCCGCTACCCCGACCATGAAGCAG  
CACGACTTCTTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCA  
ACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGA  
CTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACTACATCAGCCACAACGTCTATATCACC  
CGCGACAAGCAGAAGAACGGCATCAAGGCCAACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGACGC  
TCGCCGACCATACAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCGACAACCACTACCTGAG  
CACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCTGCTGGAGTTCTGTACCGCC  
GCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTAAAGCGGCCGCGACTCTAGATCATAATCAGCCATAC  
CACATTTGTAGAGTTTTTACTTGCTTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAACATAAAATGAAT  
GCAATTGTTGTTGTTAACTTGTATTATGTCAGCTTATAATGGTTACAAAATAAAGCAATAGCATCACAAATTTCA  
CAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTCATCAATGTATCTTAAAGCTTATC  
GATACGCGTACGGCGCGCCAAAAGCTTCTGTCTCTCTTTCTGTAATAAACTAACGATTTATAAAGTATAAAAT  
GTCGTAATGTTTATTTTTTGGCAACATGAGTTTAATTGCAAAATTGAATCAAACACAATAAAAAAAGTTAAAG  
GTTAAATCATTATATTACATCATTAAATTCGAATTCATTTGGGAAGTTTGTGGGTCTATTTTTTAACTTTAT  
ATGAATGTTTGTGTTAATTTAATAAAGGATATCGAACAGTATGCCAGTTTTGGTATTTAGCCAATTGGAG  
ATGTTTCGATGAGATGTTTCAACTGCAACCGAGTTCGAGGTTCCAAACACGACTGTTATACGGGTTCCAGCCTTC  
AAGTTCACAGAACAAGTCCACGAGCGCCACACAGTCCACAGTCCACTCCGCTCGGCGTGGAAG  
CCATTCGCTTCGTGGCGAAGTGTGTTTATCCAGTTGACAGTTTGTGGAATAATCGTCACGGTGAGCGGATCA  
AACGCGGAAAACGAACGCGGACGAACGGCGAGAAAAGCGAGGAAAACGGGTGCAGAGACAGAGACTGATTGG  
GAAATATGTGCGCCTGAGTTTTCCCGGCCAGAAGGCAAAGTGCCAAATGCTCTGACAAAATAATCTCTGTAATA  
ATCAGCGCGATTGAAATCAACGCGACGCTCGTAAATTTGCAAATGCAGCGCAAAAAGTGAACAGCAGTGACGC  
GGAAATTAATCGTTTTAGCGAGTGCCAAACGGGAAATAGAAAATCGGCAGAGTAGCCGAAGTGCAGTTAAAA  
CTATCTCTTCTCTTATTGCGACTAAACAACCGGCGGATTAATCGAATCCGAAAGATGGCCCCCACTTGCTA  
ACAATCGGATTACTTTTGACCCTGATCGCCAGCGGTCAGGCCCATCTCAATATTTTCTCAACTTGACAGAGG  
TGCTGCGCCTAATCGGTAAGTAAATCGTGTGTTGATTTTCGCTGCCTTTTGGCTTTTCAATTAAGTGGGCAATTA  
TTTGCCACTTTGTGTGCGTTTCGTTTCGACTTTTAAATCAAATTTGATTTATGCCAAGCCGGGATTTTGTCTCCTG  
GGCAAACGAATGCGACTTGCTGGGATTATTTACTCTTTTTCGTAATAATATATATGCTTTTAAATGTTTCTA  
GCCTCGGAGCTACATATAAAGTAGTATTGTCCCTCCTTCAATTGGCCAGCTCACCAGAAAACAAGAAAACATT  
CTATTTGTCTAGCATGATTTCTGTCTTTGATTTAATTGTTTCGTTAGACTTATCTAGATAAATAGAAATGC  
TAAAGCGATTTAAATTTGTATTTCTTTGCGTTAAATTAATTCGATTGGCAAGTGGATTCTCTCTAGATAAG  
TAATCCCTCTATAATCAAAGTTTTTATTTAAAAAATCATATTTTTTTCATAGTTTATCCAATTTAAAAACAATC  
AAAACAATTTTAGATATATTTTATAAACGCTCTTCAAAGAAAATAAATAGTAAATCATGTAGTCAAAAAATG  
ACACCAAAATGAGTATTTAAATATTTAGTTTAGTTTAGTTTATATTATTTTAGCCTAACTATTTTCCATA  
GAAGAATACTACTCTAATAAGCTTGGGGTACCCGGGGATCTTGAAGTTCCTATTCCGAAGTTCCTATTCTTCA  
AATAGTATAGGAAGTTCAGATCTGACAATGTTTCAGTGACAGAGCTCGGCTACGCCTCGTGGAAGTTTGAAGTTG  
ACCAACAATGTTTATTCTTACCTCTAATAGTCCCTCTGTGGCAAGGTCAAGATTCTGTTAGAACCAATGAAGA  
ACCTGGTTGTTCAATAACATTTTGTTCGTCTAATATTTCACTACCGCTTGACGTTGGCTGCACTTCATGTACC  
TCATCTATAAACGCTTCTTCTGTATCGCTCTGGACGTCATCTTCACTTACGTGATCTGATATTTCACTGTACG  
AATCCTCACCAACAAGCTCGTCATCGCTTTCGAGAAGAGCAGAGAGGATATGCTCATCGTCTAAAGAACTACC  
CATTTTATTATATATTAGTCACGATATCTATAACAAGAAAATATATATATAATAAGTTATCACGTAAGTAGAA  
CATGAAATAACAATATAATTATCGTATGAGTTAAATCTTAAAGTCAAGTAAAGATAATCATGCGTCATTTT  
GACTCAGCGGTCGTTATAGTTTCAAAATCAGTGACACTTACCGCATTGACAAGCACGCCTCACGGGAGCTCCA  
AGCGGCGACTGAGATGTCTTAAATGCACAGCGGATTCGCGCTATTTAGAAAGAGAGAGCAATATTTCAAG  
AATGCATGCGTCAATTTTACGACAGACTATCTTCTAGGGTTAAAAAAGATTGCGCTTTACTCGACCTAAACT  
TTAAACACGTCATAGAATCTTCTGTTTGAACAAAACACATTTGTGGCCAAGCTGTGTGACGCGACGCGCTAA  
AGAATGGCAAACCAAGTCGCGGAGCGTCGACTCTAGAGGATCCCCGGGTACCGAGCTCGAATTCGTAATCAT  
GGTCATAGCTGTTTTCTGTGTGAAATTGTTATCCGCTCACAATTCACACACATACGAGCCGGAAGCATAAA  
GTGTAAAGCCTGGGGTGCCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTTCCAG  
TCGGGAAACCTGTGTCGACGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGCGGTTTGCATTTGGGC

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Fig. 12 a

GCTCTTCCGCTTCTCTCGCTCACTGACTCGCTGCGCTCGGTTCGGCTGCGGCGAGCGGTATCAGCTCACTC  
AAAGGCCGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAA  
AAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA  
AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCCTGGAAG  
CTCCCTCGTGCGCTCTCTGTTCGGACCCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGC  
GTGGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGCTCCAAGCTGGGCTGTG  
TGCACGAACCCCCCGTTACGCCCCGACCGCTGCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCGGTAAG  
ACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACA  
GAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGC  
CAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTT  
TGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCT  
GACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCAATGAGATTATCAAAAAGGATCTTCACCTAGA  
TCCTTTTAAATTAATAATGAAGTTTTAAATCAATCTAAAGTATATATGAGTAAACTTTGGTCTGACAGTTACCA  
ATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCCCCGTC  
GTGTAGATAAATACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATAACCGCGAGACCCACGCT  
CACCGGCTCCAGATTTATCAGCAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAAGTGGTCTGCAACTTT  
ATCCGCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTGCCAGTTAATAGTTTGGCG  
AAGTTGTTGCCATTTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTCAGCTCCGGTT  
CCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAGCGGTTAGCTCCTTCGGTCCCTCCGAT  
CGTTGTCAGAAAGTAAAGTTGGCCGCGAGTTTATCACTCATGTTTATGGCAGCACTGCATAATTCTCTTACTGTC  
ATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAATAGTGATGCGGC  
GACCGAGTTGCTCTTGCCCGCGTCAATACGGGATAATACCGCGCCACATAGCAGAACTTTAAAGTGCTCAT  
CATTGGAAAACGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTTCGATGTAACCC  
ACTCGTGACCCAACTGATCTTCAGCATCTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGC  
AAAATGCCGCAAAAAGGGAATAAGGGCGACACGGAATGTTGAATACTCATACTCTTCTTTTTCAATATTA  
TTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATA  
GGGTTCCGCGCATATTTCCCGAAAAGTGCCACCTGACGCTCAAGAAACCATTATTATCATGACATTAACTT  
ATAAAAATAGGCGTATTCACGAGGCCCTTTCGTCTCGCGCGTTTCGGTGATGACGGTGAAAACCTCTGACACAT  
GCAGCTCCCGGAGACGGTCACAGCTTGCTGTCTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAGGGCGCGTCA  
GCGGGTGTGGCGGGTGTGCGGGCTGGCTTAACCTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCAACCAT  
TGCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCATCAGGCGCCATTTCGCCATTTCAGGCTGCG  
CAACTGTTGGGAAGGGCGATCGGTGCGGGCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGTGCTGCA  
AGGCGATTAAGTTGGGTAACGCCAGGGTTTCCAGTCACGACGTTGTAAAACGACGGCCAGTGCCAAGCTTT  
GTTTAAATATAACAAAATTGTGATCCCAAAAATGAAGTGGGGCAAAATCAAATAATTAATAGTGTCGTA  
ACTTGTGGTCTTCACTTTTTGAGGAACACGTTGGACGGCAAAATCCGTGACTATAACACAAGTTGATTTAAT  
AATTTTAGCCAACACGTCGGGCTGCGTGTTTTTGGCCGACGCGTCTGTGTACAGCTTGATTAAGTGGTTCGATT  
AACTGTTGAAATAATTTAATTTTGGTCTCTTTAAATCTGTGATGAAATTTTTTAAATAACTTTAAATT  
CTTCATTGGTAAAAATGCCACGTTTTTGCACTTGTGAGGCTTAATATGAGGTCAAATCAGTAGGAGTTTT  
ATCCAAAAAAGAAAACATGATTACGTCTGTACACGAACGCGTATTAACGCAGAGTGCAAAGTATAAGAGGGTT  
AAAAAATATATTTTACGCACCATATACGCATCGGGTTGATATCGTTAATATGGATCAATTTGAACAGTTGATT  
AACGTGTCTCTGCTCAAGTCTTTGATCAAAACGCAAATCGACGAAAATGTGTGCGGACAATATCAAGTCGATGA  
GCGAAAACTAAAAAGGCTAGAATACGACAATCTCACAGACAGCGTTGAGATATACGGTATTCACGACAGCAG  
GCTGAATAATAAAAAAATTAGAACTATTATTTAAACCTAGAAAGATAATCATATTGTGACGTACGTTAAAGA  
TAATCATGCGTAAATTTGACGCATGTGTTTTATCGGTCTGTATATCGAGGTTTATTTATTAATTTGAATAGAT  
ATTAAGTTTTATTATATTACACTTACATACTAATAATAAATTCAACAAACAATTTATTTATGTTTTATTATT  
TATTAATAAAAAAACAACCTCAAAATTTCTTATAAAGTAACAAAACCTTTTAAACATTCTCTCTTTTACAA  
AAATAAACTTATTTTGTACTTTTAAAAACAGTCATGTTGTATTATAAAAATAAGTAATTAGCTTAACTTATACAT  
AATAGAAAACAAATTATACCTTATTAGTCAGTCAGAAACAACCTTTGGCACATATCAATATTATGCTCTCGACAAA  
TAACTTTTTTGCATTTTTTGCACGATGCATTTGCCTTTTCGCTTATTTTAGAGGGGACGTAAGTACAGTAAGT  
ACGTTTTTTCATTAAGTCTTTCAGTACTGTCTATCTGATGTACCAGGCACTTCATTTGGCAAAAATATTAGAG  
ATATTATCGCGCAAAATATCTTCAAAGTAGGAGCTTCTAAACGCTTACGCATAAACGATGACGTCAGGCTCA  
TGTAAGGTTTCTCATAAATTTTTTGGCACTTTGGACCTTTTCTCCCTTGCTACTGACATTATGGCTGTATAT  
AATAAAGAATTTATGCAGGCAATGTTTATCATTCCGTACAATAATGCCATAGGCCACCTATTCGTCTTCTCTA  
CTGACGTCATCAGAACACATTTGGTCTAGCGTGTCCACTCCGCTTTAGTTTGATTATAATACATAACCA  
TTTGGCGTTTACCGGTACTTTGTTGATAGAGCATCTCATCACAAGATGATAATAAGTATACCATCTTAGC  
TGGCTTCGGTTTTATATGAGACGAGAGTAAGGGGTCGCTCAAAACAAAACATCGATGTTCCCACTGGCCTGGAG  
CGACTGTTTTTCAGTACTTCCGGTATCTCGCGTTTGTGTTGATCGCACGGTTCACCAATGGTTAATTC



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Fig. 13 Approximate DNA sequence for the vector shown in Fig. 10  
pSL-FRT-EYFP-pBacR-3xP3-DsRed-linotte-FRT3

CGTCGCTAAGCGAAAGCTAAGCAAATAAACAAGCGCAGCTGAACAAGCTAAACAATCGGGGTACCCGGGGATCTT  
GAAGTTCCTATTCCGAAGTTCCTATTCTCTAGAAAGTATAGGAACCTTCAGAGCGCTTTTGAAGCTAGGCGGCCCT  
AGAGTCGACGGTACGATCCACCGGTCGCCACCATGGTGAGCAAGGCGAGGAGCTGTTACCCGGGGTGGTGCCCA  
TCCTGGTTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCT  
ACGGCAAGCTGACCCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCCACCTCTGACACCT  
TCGGCTACGGCCTGCAGTGCTTCGCCCGCTACCCCGACCACATGAAGCAGCAGCACTTCTTCAAGTCCGCCATGC  
CCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGT  
TCGAGGGCGACACCCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGC  
ACAAGCTGGAGTACAACATAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGA  
ACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCG  
GCGACGGCCCCGTGCTGCTGCCGACAACCACTACCTGAGCTACCAGTCCGCCCTGAGCAAAGACCCCAACGAGA  
AGCGCGATCACATGGTCTGCTGGAGTTCGTGACCGCCGCGGGATCACTCTCGGCATGGACGAGCTGTACAAGT  
AAAGCGGCCGCGACTCTAGATCATAATCAGCCATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCC  
ACACCTCCCCCTGAACCTGAAACATAAAATGAATGCAATTGTTGTTGTTAACTTGTTTTATTGCAGCTTATAATGG  
TTACAAATAAAGCAATAGCATCACAAATTTACAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGTGTC  
CAAATCATCAATGTATCAAGCTTATCGATACGCGTACGGCGCGCCTAGGCGCGCCGATCTCGCGCGCCAAAAGC  
TTCTGTCTCTCTTTCTGTAATAAACTAACGATTTATAAAGTATAAAATGTCGTAATGTTTATTTTGGCAACATG  
AGTTTAATTGCAATTGAATCAACACAATAAAAAAAGTTAAAAAGTTAAATCATTATATTACATCATTAAATT  
CGAATTATCGTTAATATGGATCAATTTGAACAGTTGATTAACGTGTCTCTGCTCAAGTCTTTGATCAAAACGCAA  
ATCGACGAAAATGTGTGCGACAATATCAAGTCGATGAGCGAAAACTAAAAAGGCTAGAATACGACAATCTCACA  
GACAGCGTTGAGATATACGGTATTCAGCAGCAGGCTGAATAATAAAAAATTAGAACTATTATTTAACCTTA  
GAAAGATAATCATATTGTGACGTACGTTAAAGATAATCATGCGTAAATTTGACGCGATGTGTTTTATCGGTCTGTA  
TATCGAGGTTTTATTTATTAATTTGAATAGATATTAAGTTTTTATTATTTTACACTTACATAATAATAAATTC  
AACAAACAATTTATTTATGTTTTATTTATTTATTAATAAAAAAACAATACTCAAAATTTCTTATAAAGTAACA  
AACTTTTAAACATTCTCTCTTTTACAAAAATAAACTTATTTTGTACTTTAAAAACAGTCATGTTGTATTATAAAA  
TAAGTAATTAGCTTAACCTTATACATAATAGAAACAAATTATACTTATTAGTCAGTCAGAAACAACCTTTGGCACAT  
ATCAATATTATGCTCTCGACAATAAATTTTTTGCATTTTTTGCACGATGCATTTGCCTTTTCGCCTTATTTTAGA  
GGGCGAGTAAGTACAGTAAAGTACGTTTTTTTCACTTACTGGCTCTTCAGTACTGTCACTCTGATGTACCAGGCACCTC  
ATTTGGCAAAATATTAGAGATATTATCGCGCAAATATCTCTTCAAAGTAGGAGCTTCTAAACGCTTACGCATAAA  
CGATGACGTCAGGCTCATGTAAAGGTTTTCTCATAAATTTTTTGGCACTTTGGACCTTTTCTCCCTTGCTACTGAC  
ATTATGGCTGTATATAATAAAGAATTTATGACGGAATGTTTATCATTCGCTACAATAATGCCATAGGCCACCT  
ATTCGTCTTCTACTGCAGGTCATCACAGAACACATTTGGTCTAGCGTGTCCACTCCGCTTTAGTTTGATTATA  
ATACATAACCAATTTGCGGTTTACCGGTACTTTCTGTTGATAGAAGCATCCTCATCACACAAGATGATAAGTATAC  
CATCTTAGCTGGCTTCGGTTTATATGAGACGAGAGTAAGGGGTCCGTCAAAACAAAACATCGATGTTCCCACTGG  
CCTGGAGCGACTGTTTTTCAGTACTTCCGGTATCTCGCGTTTGTGTTGATCGCACGGTTCACACAATGGTAATTTCG  
AGCTCGCCCGGGGATCTAATTCAATTAGAGACTAATTCAATTAGAGCTAATTCAATTAGGATCCAAGCTTATCGA  
TTTTCGAACCCCTCGACCGCCGAGTATAAATAGAGGCGCTTCGTCTACGGAGCGACAATTCAATTCAAACAAGCAA  
AGTGAACACGCTCGCTAAGCGAAAGCTAAGCAATAAACAAGCGCAGCTGAACAAGCTAAACAATCGGGGTACCGC  
TAGAGTCGACGGTACCGCGGGCCCGGATCCACCGCTCGCCACCATGGTGCCTCTCTCAAGAACGTCATCAAGG  
AGTTCATGCGCTTCAAGGTGCGCATGGAGGGCACCGTGAAGGCGGACGAGTTCGAGATCGAGGGCGAGGGCGAGG  
GCCGCCCCCTACGAGGGCCACAACACCGTGAAGCTGAAGGTGACCAAGGGCGGCCCCCTGCCCTTCGCTGGGACA  
TCCTGTCCCCCAGTTCAGTACGGCTCCAAGGTGTACGTGAAGCACCCCGCGACATCCCCGACTACAAGAAGC  
TGTCCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAACCTCGAGGACGGCGGCGTGGTGACCGTGACCCAGG  
ACTCCTCCCTGCAGGACGGCTGCTTCACTTACAAGGTGAAGTTTCATCGGCGTGAACCTTCCCTCCGACGGCCCCG  
TAATGCAGAAGAAGACCATGGGCTGGGAGGCCCTCCACCGAGCGCCTGTACCCCGCGACGGCGTGTGAAGGGCG  
AGATCCACAAGGCCCTGAAGCTGAAGGACGGCGGCCACTACCTGGTGGAGTTCAAGTCCATCTACATGGCCAAGA  
AGCCCGTGCAGCTGCCCCGGCTACTACTCGTGACTCCAAGCTGGACATCACCTCCCAACGAGGACTACACCA  
TCGTGGAGCAGTACGAGCGCACCGAGGGCCGACCACCTGTTCTGTAGCGGCCGCGACTCTAGATCATAATCA  
GCCATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAACATAAAAA  
TGAATGCAATTGTTGTTGTTAACTTGTTTATTGCAGCTTATAATGGTTACAAATAAAGCAATAGCATCACAAAT  
TCACAAATAAAGCATTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTCATCAATGTATCAAGCTTATCGA  
TACGCGTACGGCGCAATTCATTTGGGAAGTTTGTGGGTCTATTTTTTAACTTTATATGAATGTTTGTGTTAGTT  
AATTTAATAAAGGATATCGAACAGTATGCCAGTTTGGTATTTAGCCAATTGGAGATGTTTCGATGAGATGTTTCGA  
ACTGCAACCGAGTTCGAGGTTCCAACACGACTGTTATACGGGTTCCAGCCTTCAAGTTCTACAGAACAAGTCCAC  
GAGCGCCACACAGTCCACAGTCCACACTCCACTCCGCTCGGCGTGGAAGCCATTGCTTCGTGGCGAAGTGTGTT  
TGTTTATCCAGTTGACAGTTTGTGGAAAATCGTACGGTGAGCGGATCAAACGCGGAAAACGAACGCGGACGAAC  
GGCGAGAAAAGCGAGGAAAACGGGTGACAGACAGAGACTGATTGGGAAATATGTGCGCCTGAGTTTTCCCGGC  
CAGAAGGCAAAGTGCCAAATGCTCTGACAAATAATTCCTGTAATAATCAGCGCGATTGAAATCAACGCGACGCTC

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Fig. 13a

GTAAATTGCAATGCAGCGCAAAAAGTGAACAGCAGTGCAGCGGAAATTAAATCGTTTTAGCGAGTGCCAAACG  
GGAAATAGAAAATCGGCAGAGTAGCCGAACCTGCAGTTAAACTATCTCTTCTCTTATTGCGACTAAACAACCGG  
CGGATTAATCGAATCCGAAAGATGGCCCCCACTTGCTAACAATCGGATTACTTTTGACCTGATCGCCAGCGGT  
CAGGCCCATCTCAATATTTTCTCAACTTGCACGAGGTGCTGCGCCTAATCGGTAAGTAATCGTGTGATTTTCG  
CCTGCCTTTTGGCTTTTCAATTAACCTGGGCAATTATTTGCCACTTTGTGTGCGTTCTGTTGACTTTAAATCAAAT  
TTGATTTATGCCAAGCCGGGATTTTGTCTCCTGGGCAAACGAATGCGACTTGCTGGGATTATTTACTCTTTTTGC  
GTAAATAATATATGCCTTTTAATTGTTTCTAGCCTCGGAGCTACATATAAAGTAGTATTGTCCCTCCTTCAATTG  
GCCAGCTCACCGAGAAACAAGAAAACATTTCTATTGTCTAGCATGATTTCTGTCTTTGATTAAATTGTTTCGT  
TAGACTTATCTAGATAAAATAGAAAATGCTAAAGCGATTTAAATTTGTTATTTCTTTGCGTTAAATTAAATTCGATTG  
GCAAGTGGATTCTCTAGATAAGTAATCCCTCTATAATCAAAGTTTTTATTTAAAAAATCATATTTTTCATA  
GTTTATCCAATTTAAAAACAATACAAAACAATTTTAGATATATTTTATAAACGTTCTTCAAAGAAAAATAAGTA  
AAATCATGTAGTCAAAAAATGACACCAAAATGAGTATTTAAATATTTAGTTTAGTTTAGTTTATATTATTATT  
AGCCTAACTATTTTTCATAGAAGAATACTACTCTAATAAGCTTGGGGTACCCGGGGATCTTGAAGTTCCTATTCC  
GAAGTTCCTATTCTTCAAATAGTATAGGAACCTCAGATCCGACCGCGGACATGTACAGAGCTCGAGAAGTACTAG  
TGGCCACGTGGGCCGTGCACCTTAAGCTTGGCACTGGCCGTCTGTTTTACAACGTCGTGACTGGGAAAACCTTGGC  
GTTACCCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCCGACCGAT  
CGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTCTCCTTACGCATCTGTGC  
GGTATTTACACCGCATACGTCAAAGCAACCATAGTACGCGCCTGTAGCGGCGCATTAAGCGCGGCGGGTGTGG  
TGTTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCTTAGCGCCGCTCCTTTTCGTTTCTTCCCTTCTCTTC  
TCGCCACGTTTCGCCGGCTTTCCCGCTCAAGCTCTAAATCGGGGGCTCCCTTTAGGGTTCCGATTTAGTGCTTTAC  
GGCACCTCGACCCCAAAAACTTGATTTGGGTGATGGTTCACGTAGTGGGCCATCGCCCTGATAGACGGTTTTTC  
GCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTGTTCCAAACTGGAACAACACTCAACCCTATCT  
CGGGCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAAATGAGCTGATTTAACAAA  
AATTTAACGCGAATTTTAACAAAATATTAACGTTTACAATTTTATGGTGCACCTCTCAGTACAATCTGCTCTGATG  
CCGATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCAT  
CCGCTTACAGACAAGCTGTGACCGTCTCGGGAGCTGCATGTGTGAGAGTTTTACCGTCTACACCGAAACGCG  
CGAGACGAAAGGGCCTCGTGATACGCTATTTTATAGTTAATGTATGATAAATAATGGTTTTCTTAGACGTGAG  
GTGGCACTTTTTCGGGAAATGTGCGCGGAACCCCTATTGTTTATTTTCTAAATACATTCAAATATGTATCCGC  
TCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGTATGAGTATTCAACATTTCCGTG  
TCGCCCTTATTCCCTTTTTTTCGGCATTTTGCCTTCTGTTTTTGTCTACCCAGAAACGCTGGTGAAAGTAAAG  
ATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACATCGAAGTGGATCTCAACAGCGGTAAGATCCTTGAGAGTT  
TTCGCCCCGAAGAACGTTTTTCCAATGATGAGCACTTTTAAAGTCTGCTATGTGGCGCGGTATTATCCCGTATTG  
ACGCCGGGCAAGAGCAACTCGGTGCGCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCACAG  
AAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGAGTGCTGCCATAACCATGAGTGATAACACTGCGG  
CCAACCTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAA  
CTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAACGACGAGCGTGACACCACGATGCCTGTAG  
CAATGGCAACAACGTTGCGCAAACCTATTAAGTGGCGAAGTACTTACTCTAGCTTCCCGGCAACAATTAATAGACT  
GGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGTTTATTGCTGATAAAT  
CTGGAGCCGGTGAGCGTGGGTCTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAG  
TTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGA  
TTAAGCATTTGGTAACTGTGACACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACCTTCATTTTAAATTA  
AAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAG  
CGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGCAAA  
CAAAAAAACCACCGCTACCGCGGTGGTTTTGTTTCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGT  
GCTTCAGCAGAGCGCAGATACCAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCCTTCAAGAACTCTG  
TAGACCCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGCCGATAAGTCGTGTCTTA  
CCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTGGGGCTGAACGGGGGTTCTGTCACACAGC  
CCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCG  
AAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGG  
GAAACGCCTGGTATCTTTATAGTCTGTGCGGTTTTGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGT  
CAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCTTGGCCTTTTGTGCGCCTTTTG  
CTCACATGTTCTTTCTGCGTTATCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGAGTGAGCTGATACCG  
CTCGCCGCGAGCCGAACGAGCGCAGCGAGTCAAGTGTGAGCAGGAGTTTCCCGACTGGAAGCGGGCAGTGAGC  
GCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTTACACTTTATGCTTCCGGCTCGTATGT  
TGTGTGGAATTGTGAGCGGATAACAATTTTACACAGGAAACAGCTATGACCATGATTACGAATTGATCCGAAGCTT  
ATCGATTTTGAACCCCTCGACCGCGGAGTATAAATAGAGGCGCTTCTGTCTACGGAGCGACAATTCAATTCAAACA  
AGCAAAGTGAACA

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